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AGRICULTURAL MEMORANDUM NO 575

SPRING BLOAT IN CATTLE

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An attempt has been made to assess whether any relationship exists between the occurrence of cattle bloat and the prevailing meteorological conditions. The dates of incidence and cessation of spring bloat at Trereife Farm, Penzance have been examined for the years 1971, 72, 73 together with the following meteorological parameters measured at the nearby Penzance climatological station: temperature, sunshine, rainfall and soil moisture deficit. These quantities are selected mainly for their possible influence on the growth of the grass upon which the cattle feed.

The dates of commencement and cessation of bloat for the 3 years are as follows:

Year	Grazing commenced	Bloat started	Bloat stopped
1971	March 3	April 17	May 12
72	March 12	April 8	May 24
73	February 20	April 12	May 20

1. Temperature

At the time bloat started, in each of the 3 years the mean daily maximum temperature for the preceding 10 days was around or a little above 10°C. On one occasion (1973) there was a succession of 3 nights of low night minimum temperatures (April 8, 9, 10) just before the outbreak, a condition sometimes suggested as being a contributory factor. This suggested requirement for a cold spell is not borne out by the other two years, particularly in 1972 when the minimum temperature on the day of the outbreak was 6.6°C (43.9°F) and had been above this figure for the previous 10 days.

Result - No consistency.

2. Sunshine

The number of hours sunshine around the time of each outbreak are as follows:

	Day of commencement		Total preceding 5 days
1971	April 17	11.4 hrs	16.1 hrs
72	April 8	6.2	26.5
73	April 12	3.2	37.0

Result - No particular consistency - except that all years show either a fairly sunny outbreak period, or a sunny outbreak day.

3. Rainfall

Two of the 3 commencement days followed periods of rain, the other followed a dry period (1971). Cessation of bloat followed wet days on 2 occasions, but a dry day on the third (1971).

Result - no consistency.

4. Soil Moisture Deficit

It was thought possible that cessation of bloat might follow a period of reduced grass growth, and that this might occur when the soil moisture deficit had reached some particular level. The soil moisture deficits for dates of cessation are as follows:

		SMD
1971	May 12	36.6 mm
72	May 24	3.5
73	May 20	1.7

Result - No consistency.

Conclusion

No particular association between any of these meteorological parameters and the commencement of bloat has been observed. There is an extremely tenuous indication that the earlier cessation of bloat in 1971 might be associated with the considerably greater soil moisture deficit in that particular year.

Any comments or suggestions on this paper should be referred to the author.

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September 1973